

## CLAIMS

What is claimed is:

- 5        1. A polyphase device comprising:
  - a first transistor having a first collector, a first base and a first emitter, the first base adapted to receive a positive portion of an input signal;
  - a second transistor having a second collector, a second base and a second emitter, the second base adapted to receive a negative portion of the input signal, the first transistor and the second transistor adapted to drive the R-C polyphase network;
  - 10        an R-C polyphase network having a first input coupled to the first collector and a second input coupled to the second collector;
  - the R-C polyphase network including an inductor;
  - 15        the R-C polyphase network having first output and a second output, the first output and the second output offset in phase; and
  - the inductor adapted to provide bandpass filtering of the first output and the second output.
- 20        2. The device of claim 1 wherein the inductor is coupled in parallel to an input of the R-C polyphase network.
- 25        3. The device of claim 1 wherein the inductor is in resonance with a capacitive reactance of the R-C polyphase network.
4. The device of claim 1 wherein the first output and the second output are offset in phase by approximately 90 degrees.
- 30        5. The device of claim 1 wherein the inductor is adapted to reduce unwanted harmonics and spurious content in the first output and the

second output.

6. The device of claim 1 wherein the inductor comprises:
  - a first inductor coupled in parallel with the first input of the R-C polyphase network; and
  - a second inductor coupled in parallel with the second input of the R-C polyphase network.
7. The device of claim 1 wherein the first output and the second output are amplified relative to the input signal.
8. The device of claim 1 wherein the R-C polyphase network comprises a two-stage R-C polyphase network.
- 15 9. A polyphase device comprising:
  - a transistor having a collector, a base and an emitter;
  - an R-C polyphase network having an input coupled to the collector, the transistor adapted to drive the R-C polyphase network; and
  - the R-C polyphase network including an inductor adapted to provide bandpass filtering of an output of the R-C polyphase network.
- 20 10. The device of claim 9 wherein the inductor is coupled in parallel to the input of the R-C polyphase network.
- 25 11. The device of claim 9 wherein the inductor is in resonance with a capacitive reactance of the R-C polyphase network.
12. The device of claim 9 wherein the inductor is adapted to reduce unwanted harmonics and spurious content in the output.

13. The device of claim 9 wherein the output is amplified relative to an input signal coupled to the base and driving the R-C polyphase network.

5           14. A method of generating phase offset signals comprising the steps of:

inputting a positive portion of an input signal into a first base of a first transistor;

10          inputting a negative portion of the input signal into a second base of a second transistor;

biasing the first transistor and the second transistor to conduct current;

15          driving an R-C polyphase network having a first input coupled to a first collector of the first transistor and a second input coupled to a second collector of a second transistor, wherein the polyphase network includes an inductor; and

20          outputting a first output and a second output, the first output and the second output offset in phase, the inductor causing a bandpass filtering of the first output and the second output.

25          15. The method of claim 14 wherein the inductor is coupled in parallel to an input of the R-C polyphase network.

25          16. The method of claim 15 wherein the inductor is in resonance with a capacitive reactance of the R-C polyphase network.

30          17. The method of claim 14 wherein the outputting step comprises outputting the first output and the second output offset in phase by approximately 90 degrees.

18. The method of claim 14 further comprising reducing unwanted harmonics and spurious content in the first output and the second output.

5           19. The method of claim 14 wherein the inductor comprises:  
              a first inductor coupled in parallel with the first input of the R-C polyphase network; and  
              a second inductor coupled in parallel with the second input of the R-C polyphase network.

10           20. The method of claim 14 further comprising amplifying the first output and the second output relative to the input signal.